

MIAMI-DADE COUNTY, FLORIDA METRO-DADE FLAGLER BUILDING 140 WEST FLAGLER STREET, SUITE 1603 MIAMI, FLORIDA 33130-1563 (305) 375-2901 FAX (305) 375-2908

NOTICE OF ACCEPTANCE (NOA)

Harmon, Inc. 2104 Corporate Drive Boynton Beach, FL 33426

Scope:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: HI5000 (8" Monolithic & Insulated Laminated Glass) Aluminum Window Wall System APPROVAL DOCUMENT: Drawing No. 001_HI7000_Sm, titled "HI 7000 Small Missile", sheets 1 through 20 of 20, dated 06/28/04, prepared by manufacturer, signed and sealed by Lee A. Granquisi, P.E., bearing the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade County Product Control Division.

MISSILE IMPACT RATING: Small Missile Impact

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA consists of this page 1 and evidence pages E-1, and E-2, as well as approval document mentioned above

The submitted documentation was reviewed by Herminio F. Gonzalez, P.E., Director, BCCO

NOA No 04-0217.13 Expiration Date: September 02, 2009 Approval Date: September 02, 2004

Page 1

Harmon, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

- 1. Manufacturer's die drawings and sections.
- 2. Drawing No. **001_HI7000_Sm**, titled "HI 7000 Small Missile", sheets 1 through 20 of 20, dated 06/28/04, prepared by manufacturer, signed and sealed by Lee A. Granquisi, P.E.

B. TESTS

- 1. Test reports on 1) Air Infiltration Test, per FBC, TAS 202-94
 - 2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
 - 3) Small Resistance Test, per FBC, TAS 202-94
 - 4) Cyclic Wind Pressure Loading per FBC, TAS 203-94 along with marked-up drawings and installation diagram of an aluminum window wall system (specimen 1), prepared by Hurricane Test Laboratory, Inc., Test Report No. **HTL-0319-0711-03**, dated 7/7-16/03, signed and sealed by Vinu J. Abraham, P.E.
- 2. Test reports on 1) Cyclic Wind Pressure Loading per FBC, TAS 203-94 along with marked-up drawings and installation diagram of an aluminum window wall system (specimen W1), prepared by Hurricane Test Laboratory, Inc., Test Report No. HTL-0319-0627-03, dated 06/23/03, signed and sealed by Vinu J. Abraham, P.E.

C. CALCULATIONS

- 1. Anchor Calculations, ASTM-E1300, and structural analysis, prepared by Larson Engineering of Minnesota, dated 06/07/04, signed and sealed by Lee A. Granquist, P.E.
- 2. Anchor Calculations, ASTM-E1300, and structural analysis, prepared by Larson Engineering of Minnesota, dated 11/06/03, signed and sealed by Lee A. Granquist, P.E.

D. **OUALITY ASSURANCE**

1. Miami Dade Building Code Compliance Office (BCCO).

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **01-0205.02** issued to Solutia, Inc. for "Saflex IIIG PVB" dated 05/21/01, expiring on 05/21/06.

F. STATEMENTS

1. Statement letter of conformance, dated February 05, 2004 signed by Lee A. Granquist, P.E.

Herminio F. Gonzalez, P.E. Director, Building Code Compliance Office

NOA No 04-0217.13

Expiration Date: September 02, 2009 Approval Date: September 02, 2004

Harmon, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. Statement letter of no financial interest, dated February 05, 2004, signed and sealed by Lee A. Granquist, P.E.

G. OTHER

1. Letter from the consultant stating that the product is in compliance with the Florida Building Code (Code).

Herminio F. Gonzalez, P.E.
Director, Building Code Compliance Office

NOA No 04-0217.13

Expiration Date: September 02, 2009 Approval Date: September 02, 2004

HARMON HI 7000

SMALL MISSILE PREGLAZED AND UNITIZED

DESIGN PARAMETERS

FLORIDA BUILDING CODE (HVHZ) REQUIREMENTS

TAS-201 - LARGE & SMALL MISSILE IMPACT

TAS-202 - AIR LEAKAGE, WATER PENETRATION & STRUCTURAL PERFORMANCE

(WATER @ 20 psf, STRUCTURAL @ +110/-130 psf & +79.2/-148.9 psf)

TAS-203 - CYCLING

ASTM STANDARDS (MIAMI)

E283 - AIR LEAKAGE

E330 - STRUCTURAL PERFORMANCE

E331 - WATER PENETRATION

E1886 LEVEL "D" - IMPACT BY "MISSILE" & CYCLIC PRESSURES

E1996 - IMPACT BY WINDBORNE DEBRIS

SYSTEM DIMENSIONS

2 1/2" X 8" (MONOLITHIC GLASS)

2 1/2" X 8 3/4" (INSULATED GLASS)

FINISH

ON A PER JOB BASIS (EXPOSED AREAS)

CLEAR ANODIZED (NON-EXPOSED AREAS)

MILL FINISH (NON-EXPOSED AREAS) SETTING CHAIRS, ANCHORS, ETC.

ALUMINUM IN CONTACT WITH DISSIMILAR MATERIALS SHALL BE PROTECTED AS SPECIFIED IN SECTION 2003.8.4 OF THE FLORIDA BUILDING CODE

ALUMINUM ALLOY

6063-T5 6063-T6 6005-T5 6105-T5

SEE ALSO ALUMINUM MATERIAL LIST ON SHT 2

STEEL

ALL CLIP ANGLES OR RIENFORCING STEEL SHALL BE PER ASTM-36 (PRIME PAINTED)

WELDING

CURRENT ASTM STANDARDS E70 - XX ELECTRODES UNLESS OTHERWISE NOTED

GLASS

SEE SHEET 7 & 8

GASKETS

SILICONE OR EPDM --- SEE GASKET CHART ON SHEET 2

SEALANTS

STRUCTURAL SILICONE - DOW CORNING 983 (TWO PART) / RE-GLAZING - DOW CORNING 995

FRAME ASSEMBLY SEALS - DOW CORNING 795

PERIMETER WEATHER SEAL, BACKER ROD AND SEALANT ON A PER JOB BASIS

ANCHORAGE

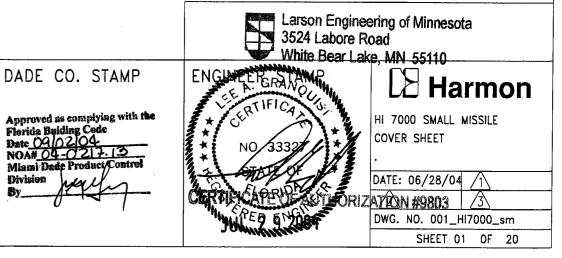
FASTENERS TO BE CORROSION RESISTANT AS DETAILED HEREIN AND CONFORM TO F.B.C. SEE ASSEMBLY SCREW CHART ON SHEET 2

INDE	X OF DRAWINGS
PAGE	DESCRIPTION
- 1	COVER SHEET - DESIGN PARAMETERS
2	MATERIAL LISTS
3	GLAZING DETAILS & RE-GLAZING DETAILS
4	ELEVATION - SIMPLE SPAN
5	ELEVATION - TWIN SPAN
6	ELEVATION - TWIN SPAN w/ STACK HORIZONTAL
7	GLASS SCHEDULE LARGE MISSILE
8	GLASS SCHEDULE - SMALL MISSILE & ADDITIONAL TESTING
9	MULLION APPLICATION CHARTS
10	ANCHOR REVIEW
11	DETAILS OF TYPICAL HEADS, SILLS, & INTERMEDIATE HORIZONTALS
12	DETAILS OF TYPICAL VERTICALS
13	DETAIL OF DOOR, HEAD & JAMB AND SEGMENTED VERTICAL
14	DETAIL OF 90 DEGREE OUTSIDE CORNER
15	DETAIL OF STACK HORIZONTAL
16	STRAP ANCHOR & THRU-FRAME ANCHOR
17	ANGLES IN VERTICAL ANCHOR & ALUMINUM LUG IN VERTICAL ANCHOR
18	MID-SPAN ANCHOR & STACK WALL ANCHOR
19	STACK WALL ANCHOR - EXPLODED ISOMETRIC VIEW
20	JAMB ANCHORS

NOTE:

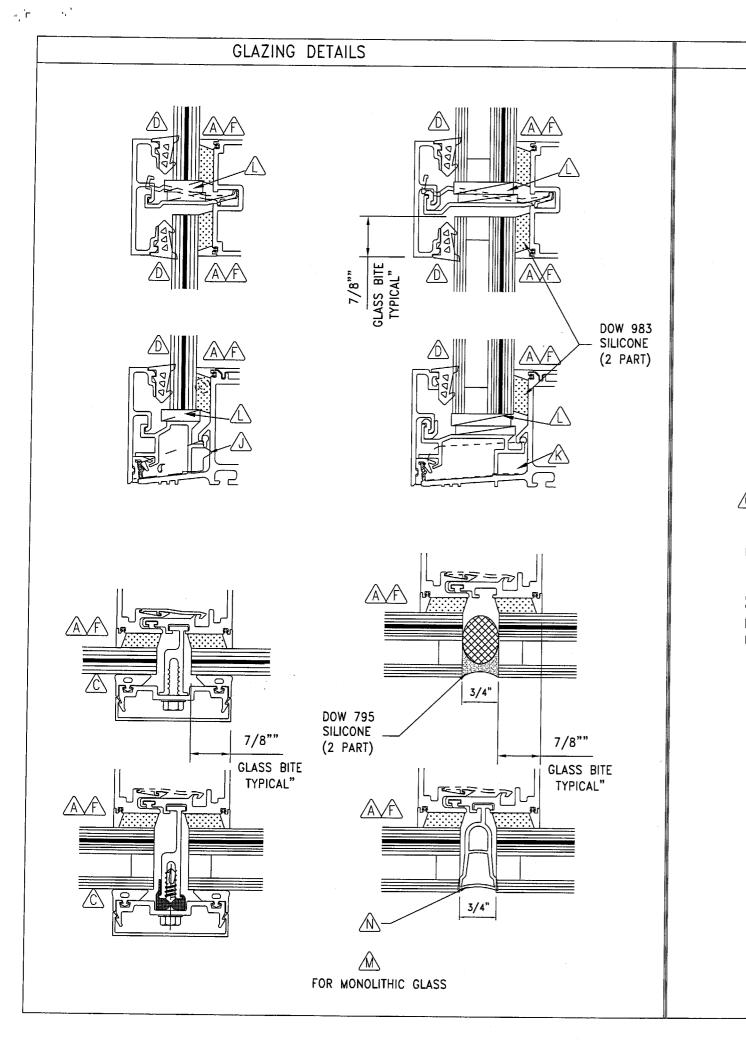
Florida Buiding Code

FOR SYSTEM SELECTION SEE SHEETS 4, 6 or 9.

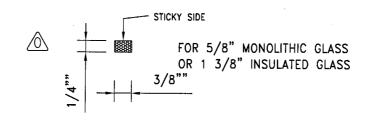


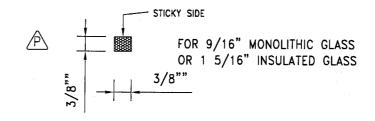
FR	AME ASSEMBLY	FASTENER LIS	ST	GASK	CET LIST					ALUMINUM MATERIAL LIST				
A	PRESSURE PLATE BOLT FOR INSULATED GLASS SYSTEM	#14 X 1" HWH S.S. "A" POINT XYLAN COATED	2 1/2" FROM END AND 9" ON CENTER	Â	<u> </u>	PART # 770301		INTERIOR FIXED GASKET FOR 5/8" & 1 3/8" THICK GLASS (1/4" THICK SEAL)		DESCRIPTION	PART #		TYPICAL THICK.	REMARKS REV
B	TYPICAL HORIZONTAL FRAME ASSEMBLY SCREW	#12 X 1 1/2" HWH "A" POINT XYLAN COATED	(4) REQUIRED PER JOINT	B	2	PART # 750301		VERTICAL WHISKER GASKET	(1)	FEMALE VERTICAL MULLION MALE VERTICAL MULLION INTERMEDIATE HORIZONTAL		6063-T6 6063-T6 6063-T5	.110 .110 .100	
С	NON-TYPICAL HORIZONTAL ASSEMBLY SCREW TO BYPASS STEEL	#12 X 1 1/2" PFH "A" POINT XYLAN COATED	(4) REQUIRED PER JOINT		l?	PART # 720301	70 DUR. EPDM	EXTERIOR SLIDE IN 9 VERTICAL PRESSURE PLATE	(5) (6)	JAMB — MONOLITHIC GLASS HEAD & SILL — MONOLITHIC GLASS JAMB — INSULATED GLASS		6063-T6 6063-T5 6063-T6	.110 .110	
D	ANCHOR STEEL FIXING PLATE INTO HORIZONTAL	#17 X 1" STRIPPER BOLT	(1) REQUIRED PER PLATE		[D0)	PART # 730301	70 DUR. EPDM	EXTERIOR WEDGE	(3) (9)	HEAD & SILL — INSULATED GLASS JAMB COVER HEAD & SILL EXTERIOR COVER	300203	6063-T5 6063-T5 6063-T5	.110 .100	
E	TEMPORARY ANCHOR FOR CORNER END CAPS	#10 X 1 1/4" TEK SCREW	(1) REQUIRED PER END CAP	Ê		PART # 790301	70 DUR. EPDM	THERMAL BREAK FOR PRESSURE PLATE	(1) (1)	HEAD & SILL INTERIOR FILLER HORIZONTAL COVER VERTICAL COVER	306401 300201	6063-T5 6063-T5 6063-T5	.080	
F	PRESSURE PLATE BOLT FOR MONOLITHIC GLASS SYSTEM	#14 X 3/4" HWH S.S. "A" POINT XYLAN COATED	2 1/2" FROM END AND 9" ON CENTER	A	. 5/16" 	PART # 770302	85 DUR. SILICONE	INTERIOR. FIXED GASKET FOR 9/16" & 1 5/16" THICK GLASS (5/16" THICK SEAL)		VERTICAL PRESSURE PLATE PERIMETER ADAPTOR - MONOLITHIC GLASS PERIMETER ADAPTOR - INSULATED GLASS	300701 300305	6105-T5 6105-T5 6105-T5	.100	
G	ALLEN HEAD SCREW FOR ANCHOR USED w/ STACK HORIZONTAL	1/4-20 ALLEN HEAD BOLT GRADE 5	LOCATED AT TOP & BOTTOM OF ANCHOR	Ĝ]T	PART # 790303	90 DUR. EPDM	ALL PERIMETERS	(1) (1)	HORIZONTAL ADAPTOR - MONOLITHIC GLASS HORIZONTAL ADAPTOR - INSULATED GLASS	300303 300302	6105-T5 6105-T5	.080	
				A	Ŋ	PART # 790302	90 DUR. EPDM	PERIMETER THERMAL BREAK	(18) (19) (20)	VERTICAL ADAPTOR - MONOLITHIC GLASS VERTICAL ADAPTOR - INSULATED GLASS ANTI-BUCKLING CLIP (EXTERIOR SIDE)	300301 300306	6105-T5 6105-T5 6105-T5	.093 .093	4" LONG 30" O.C. MAX.
						PART # 780301	70 DUR. SILICONE	ZONE DAM FOR MONOLITHIC GLASS 2 1/2" LONG		ANTI-BUCKLING CLIP (INTERIOR SIDE) STRAP ANCHOR FEMALE STRAP ANCHOR MALE	930102 930106	6105-T5 6105-T5 6105-T5	.060 .177 .187	4" LONG 30" O.C. MAX. SEE DET. 1-4 SHT. 16 SEE DET. 1-4 SHT. 16
				Â		PART # 780302	70 DUR. SILICONE	ZONE DAM FOR INSULATED GLASS 2 1/2" LONG	24 25 26	SLIDING ANCHOR FEMALE SLIDING ANCHOR MALE "STACK" SPLICE PLATE	930104	6105-T5 6105-T5 6005-T5	.250 .435 .187	SEE DET. 5-8 SHT. 17 SEE DET. 5-8 SHT. 17 SEE DET. 1 SHT. 15
; ;						PART # 700303	90 DUR. EPDM	5" LONG SETTING BLOCK. (TEAR IN HALF FOR MONOLITHIC GLASS	28 29	SERRATED PLATE "KNUCKLE" ANCHOR HOOK ANCHOR	930109	6005-T5 6005-T5 6005-T5		SEE DET. 3 & 4 SHT. 18 SEE DET. 3 & 4 SHT. 18 SEE DET. 3 & 4 SHT. 18
					F	PART # 740301	70 DUR. EPDM	AT BUTT JOINT FOR MONOLITHIC GLASS		FLOOR EDGE PLATE ANTI-WALK ANGLE		6005-T5 6105-T5		SEE DET. 3 & 4 SHT. 18 SEE DET. 3 & 4 SHT. 18
					H	PART # 740302	70 DUR. EPDM	AT BUTT JOINT FOR INSULATED GLASS						
					STICKY SIDE 1/4" X 3/8"	POLYURETHANE FOAM ADHESIVE ONE SIDE	HARD. SHORE A	INTERIOR FIXED TAPE FOR 5/8" & 1 3/8" THICK GLASS (1/4" THICK SEAL)				l areo	n Engine	ering of Minnesota
				A	STICKY SIDE 3/8" X 3/8"	POLYURETHANE FOAM ADHESIVE ONE SIDE		INTERIOR FIXED TAPE FOR 9/16" & 1 5/16" THICK GLASS (5/16" THICK SEAL)		DADE CO. STAMP		3524	Labore R	ke, <u>MN 5</u> 5110
					.060 X 3/8"	POLYURETHANE FOAM ADHESIVE ONE SIDE		SPACER TAPE FOR SEGMENTED MULLION		Approved as complying with the Florida Baiding Code Date 09 0 2 0 4	* CE	TIFICA	CO. AMERICAN TO SERVICE AND ADMINISTRATION OF THE PERSON O	HI 7000 SMALL MISSILE
										Date 09 102 0 4 NOA# 00-0217 93 Miami Dade Product Control Division By	ERTE	160/33327 160/18 160/18 160/18	AND HOF	MATERIAL LISTS . DATE: 06/28/04 /1 ZANON #9803 /3 DWG. NO. 002_HI7000_sm SHEET 02 OF 20

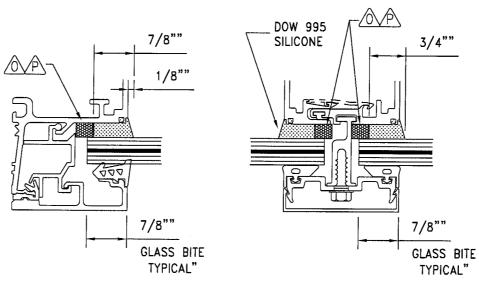
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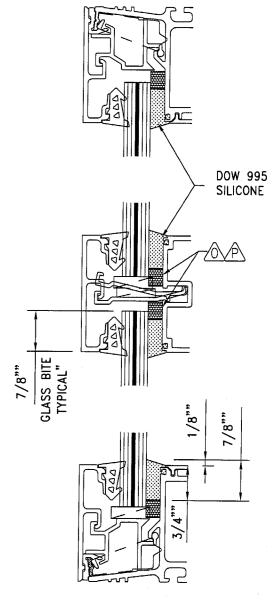


RE-GLAZING DETAILS











Larson Engineering of Minnesota 3524 Labore Road White Bear Lake, MN 55110

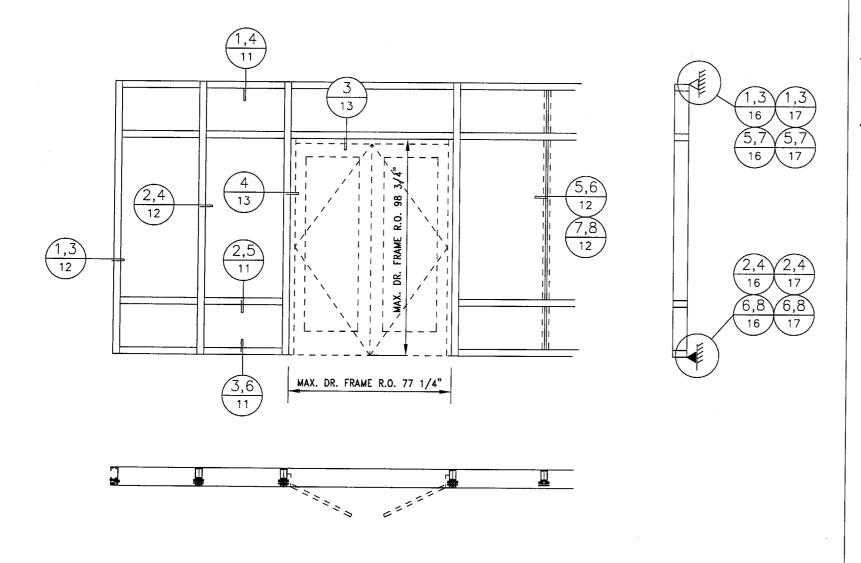




□ Harmon

HI 7000 SMALL MISSILE
GLAZING DETAILS
RE-GLAZING DETAILS

DATE: 06/28/04 1 DATE: 06/28/04 1 DATE: 06/28/04 1 DWG. NO. 003_HI7000_sm SHEET 03 OF 20



SYSTEM APPLICATION GUIDELINES:

- 1 SELECT GLASS FROM CHARTS ON SHEET 7 & 8. NOTE GLASS THICKNESS AND 4-SIDE CAPTURED VERSES CAPTURED/SSG OPTIONS.
- 2 SELECT MULLION & REINFORCING AS REQUIRED FROM CHARTS ON SHEET 9 FOR SINGLE SPAN APPLICATION. APPLICATION BASED ON WIND LOAD. MODULE "W", AND SPAN "H". REFER TO GENERAL NOTES AND GUIDELINES REGARDING SPAN LIMITATIONS AND COMBINATIONS.
- 3 SELECT ANCHOR APPLICATIONS FROM SHEET 10. MAKE SELECTION BASED ON PERIMETER CONDITION AND END REACTIONS. NOTE MAXIMUM TESTED END REACTIONS FOR PROPER APPLICATION.
- 4 SELECT APPROPRIATE DETAILS FROM ELEVATION AT LEFT, BASED ON GLASS APPLICATION AND MULLION REINFORCING REQUIREMENTS. FOR SPECIFIC ANCHOR DETAILS, SEE DETAILS REFERENCED ON ANCHOR APPLICATION SHEET 10.



Larson Engineering of Minnesota 3524 Labore Road White Bear Lake. MN 55110

GENERAL NOTES:

- DOOR AREA TESTED IS 90 PSF.
- DOORS AND DOOR FRAMES ARE NOT PART OF THIS SUBMISSION. ANY DOOR USED MUST MEET DADE COUNTY NOA.

DADE CO. STAMP

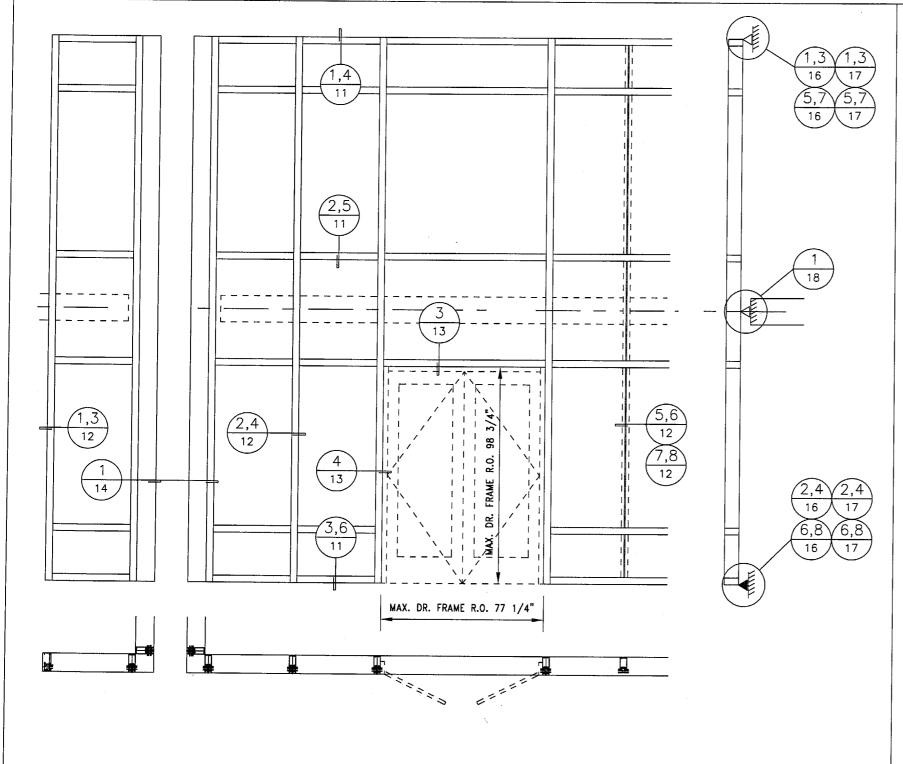


☐ Harmon

HI 7000 SMALL MISSILE SINGLE SPAN APPLICATION JAMBS

DATE: 06/28/04 /1

ZANON #9803 /3 DWG. NO. 004_HI7000_sm SHEET 04 OF 20



SYSTEM APPLICATION GUIDELINES:

- 1 SELECT GLASS FROM CHARTS ON SHEET 7 & 8. NOTE GLASS THICKNESS AND 4-SIDE CAPTURED VERSES CAPTURED/SSG OPTIONS.
- 2 SELECT MULLION & REINFORCING AS REQUIRED FROM CHARTS ON SHEET 9 FOR TWIN SPAN APPLICATION. APPLICATION BASED ON WIND LOAD, MODULE "W", AND SPAN "H". REFER TO GENERAL NOTES AND GUIDELINES REGARDING SPAN LIMITATIONS AND COMBINATIONS.
- 3 SELECT ANCHOR APPLICATIONS FROM SHEET 10. MAKE SELECTION BASED ON PERIMETER CONDITION AND END REACTIONS. NOTE MAXIMUM TESTED END REACTIONS FOR PROPER APPLICATION.
- 4 SELECT APPROPRIATE DETAILS FROM ELEVATION AT LEFT, BASED ON GLASS APPLICATION AND MULLION REINFORCING REQUIREMENTS. FOR SPECIFIC ANCHOR DETAILS, SEE DETAILS REFERENCED ON ANCHOR APPLICATION SHEET 10.

GENERAL NOTES:

- DOOR AREA TESTED IS 90 PSF.
- DOORS AND DOOR FRAMES ARE NOT PART OF THIS SUBMISSION. ANY DOOR USED MUST MEET DADE COUNTY NOA.



Larson Engineering of Minnesota 3524 Labore Road White Bear Lake, MN 55110 White Bear Lake, MN 55110

Approved as complying with the

DADE CO. STAMP

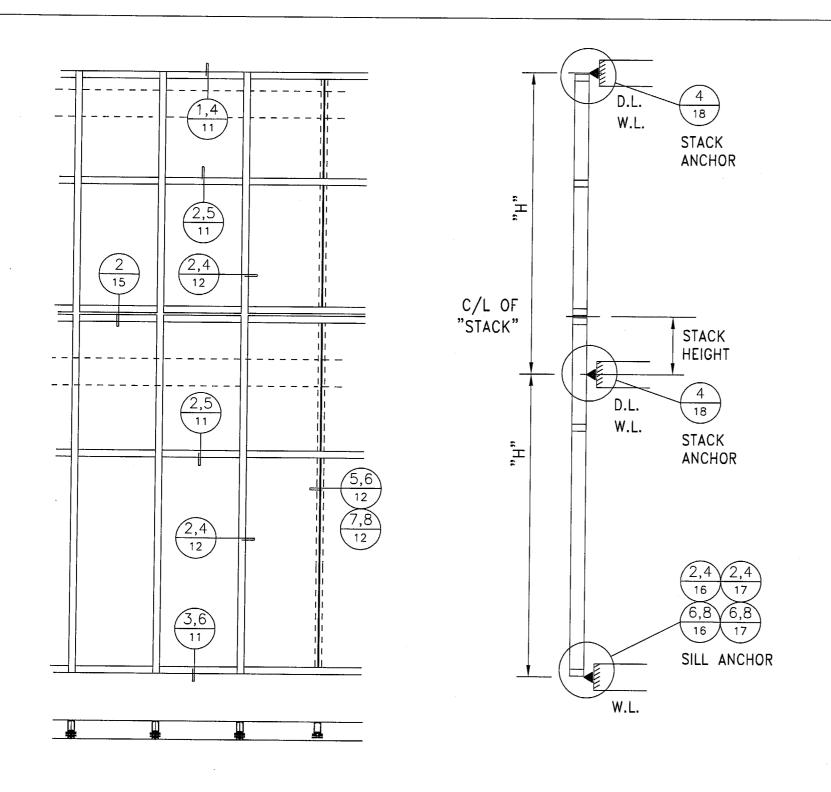
⊞ Harmon

HI 7000 SMALL MISSILE TWIN SPAN APPLICATION

DATE: 06/28/04 /1

73 DWG. NO. 005_HI7000_sm

SHEET 05 OF 20



SYSTEM APPLICATION GUIDELINES:

- 1 SELECT GLASS FROM CHARTS ON SHEET 7 & 8. NOTE GLASS THICKNESS AND 4-SIDE CAPTURED VERSES CAPTURED/SSG OPTIONS.
- 2 SELECT MULLION & REINFORCING AS REQUIRED FROM CHARTS ON SHEET 9
 FOR TWIN SPAN w/ STACK HORIZONTAL APPLICATION. APPLICATION BASED ON
 WIND LOAD, MODULE "W", AND SPAN "H". REFER TO GENERAL NOTES
 AND GUIDELINES REGARDING SPAN LIMITATIONS AND COMBINATIONS.
- 3 SELECT ANCHOR APPLICATIONS FROM SHEET 10. MAKE SELECTION BASED ON PERIMETER CONDITION AND END REACTIONS. <u>NOTE</u> MAXIMUM TESTED END REACTIONS FOR PROPER APPLICATION.
- 4 SELECT APPROPRIATE DETAILS FROM ELEVATION AT LEFT, BASED ON GLASS APPLICATION AND MULLION REINFORCING REQUIREMENTS. FOR SPECIFIC ANCHOR DETAILS, SEE DETAILS REFERENCED ON ANCHOR APPLICATION SHEET 10.

33 V

Larson Engineering of Minnesota 3524 Labore Road White Bear Lake, MN 55110

GENERAL NOTES:

DADE CO. STAMP

Approved as complying with the Floride Building Code
Date 09 10 2 0 4
NOA# 04-0217-12
Minmi Date Product Control

ith the

Harmon HI 7000 SMALL MISSILE

HI 7000 SMALL MISSILE
TWIN SPAN APPLICATION
W/ STACK HORIZONTAL

DATE: 06/28/04 /1\
HORIZATION #9803 /3\

DWG. NO. 006_HI7000_sm

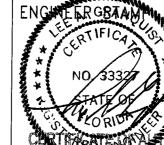
SHEET 06 OF 20

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Larson Engineering of Minnesota 3524 Labore Road

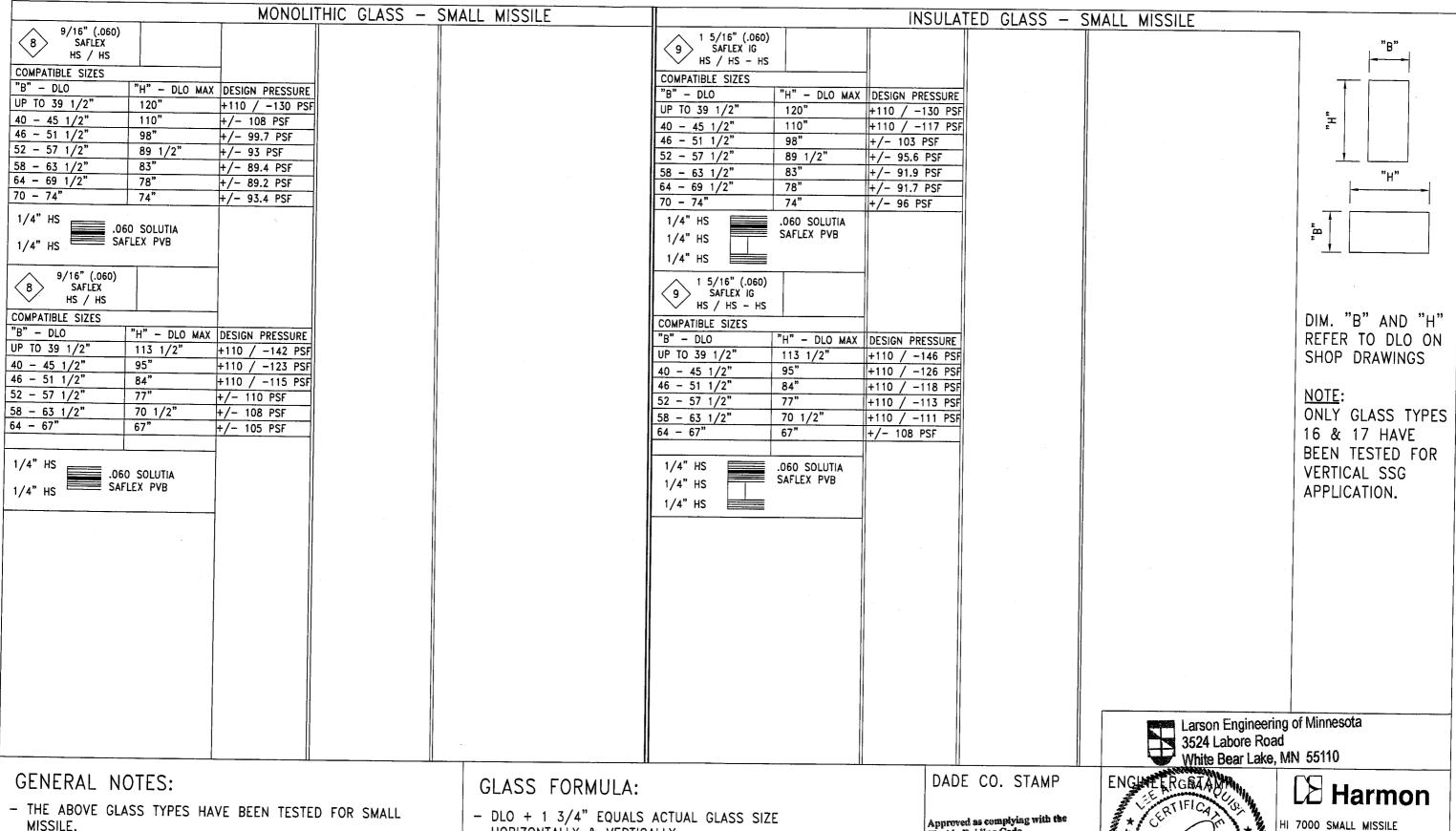
White Bear Lake, MN 55110



GLASS APPLICATIONS

DATE: 06/28/04 /1 DWG. NO. 007_HI7000_sm

SHEET 07 OF 20



- SYSTEM HAS A 2 1/2" FACE DIMENSION THEREFORE A 60" C/L TO C/L HAS A 57 1/2" DLO
- INSULATED GLASS HAS A 1/2" AIR SPACE
- HS HEAT STRENGTHENED
- TEMP TEMPERED

HORIZONTALLY & VERTICALLY

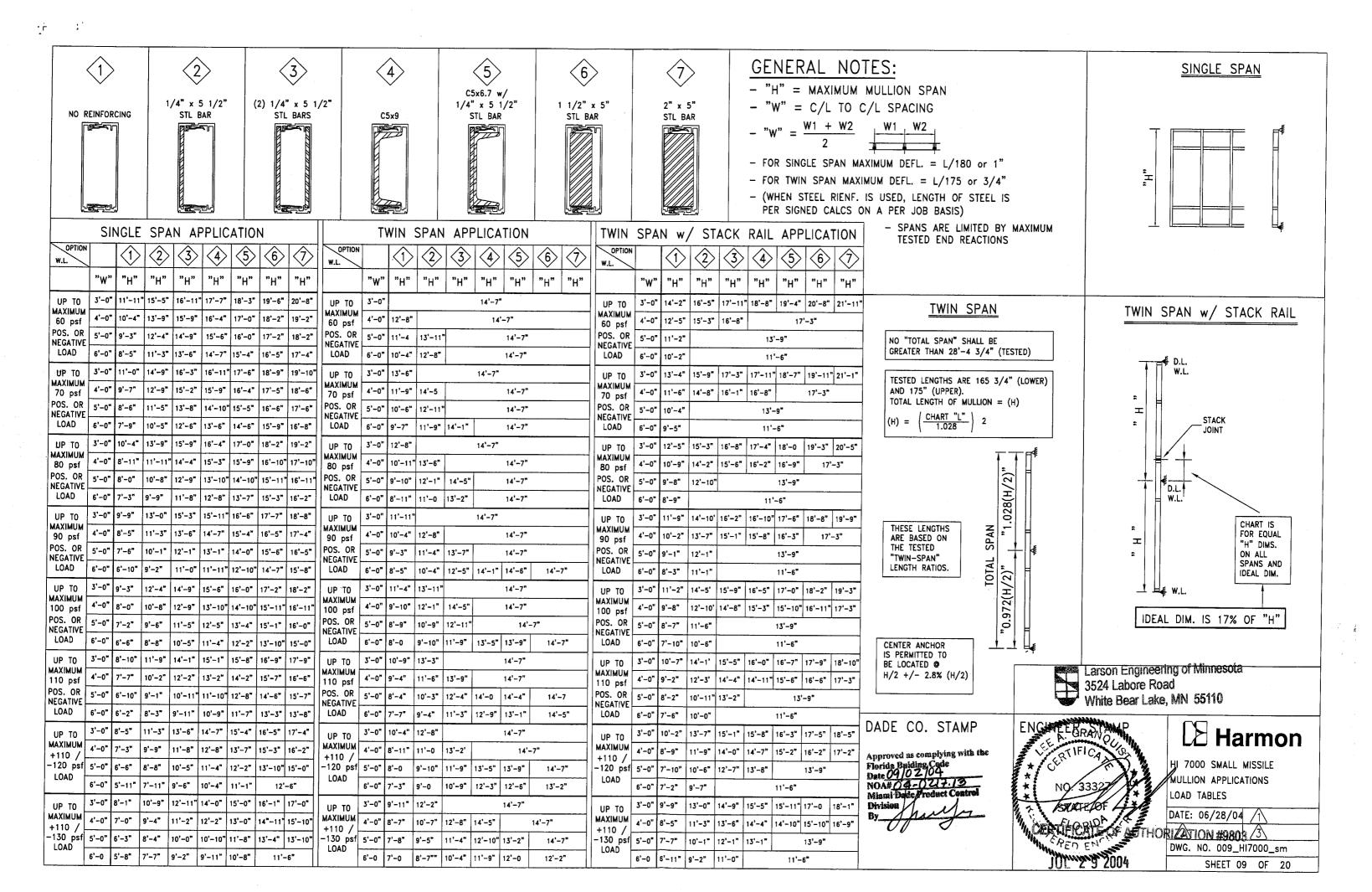
Approved as complying with the Florida Baiding Code
Date 09 00 2 00 9
NOA# 04-0 21 7-13

HI 7000 SMALL MISSILE GLASS APPLICATIONS SMALL MISSILE

DATE: 06/28/04 1

ZATION #980; 3 DWG. NO. 008_HI7000_sm

SHEET 08 OF 20



ANCHOR TYPE SUBSTRATE	STRAP ANCHOR	THRU-FRAME ANCHOR	STEEL ANGLES IN VERTICAL	ALUMIMUN LUGS IN VERTICAL	TWIN SPAN MID-SPAN ANCHOR	w/	I-SPAN STACK HORIZ. R. ANCHOR	JAMB ANCHOR
WOOD								
CONC.								MAXIMUM END REACTION (1) STRAP-5" LONG = 1870#
STEEL								SEE DETAIL 1/20
METAL STUD								
	MAXIMUM END REACTION (2) STRAPS-8" LONG = 2,715# SEE SHEET 16 FOR DETAILS	MAXIMUM END REACTION = 3,540# SEE SHEET 16 FOR DETAILS	MAXIMUM END REACTION (2) ANGLES = 4,520# TYP. ANGLES w/ (2) FASTENERS REIN. ANGLES w/ (1) FASTENER SEE SHEET 17 FOR DETAILS	MAXIMUM END REACTION = 2,715# (PER TEST ELEV. 12) SEE SHEET 17 FOR DETAILS	MAXIMUM WL REACTION = 11,550# SEE SHEET 18 FOR DETAILS	= 10,50	ET 18 FOR DETAILS	eering of Minnesota Road ake, MN 55110
GENERAL NO	DTES:				DADE CO. STA	MP	ENGINEER AMP	Rake, MN 55110 CE Harmon

- SIZES OF ANCHOR COMPONENTS LISTED ABOVE ARE A MINIMUM.

- ACTUAL LENGTH AND NUMBER & SIZE OF HOLES TO BE DETERMINED BY PROJECT SPECIFIC PERIMETER CONDITIONS AND TYPES OF FASTENERS USED.

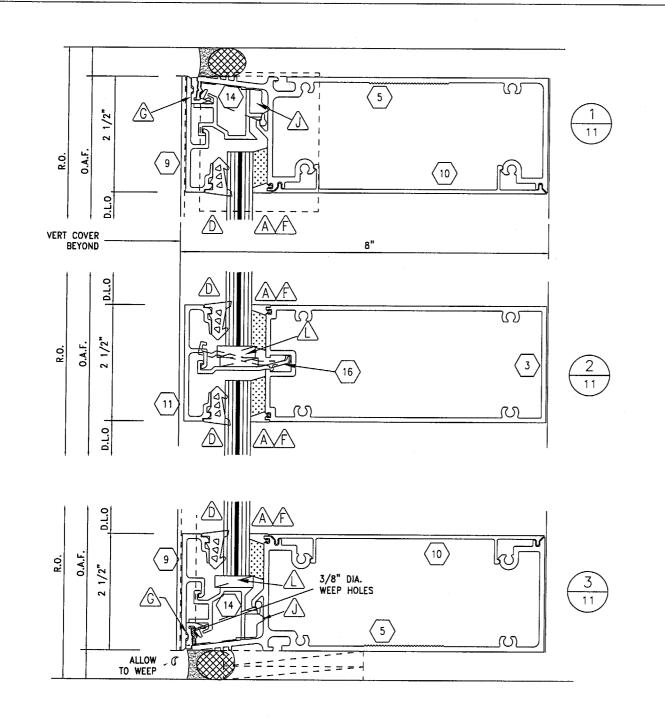
Approved as complying with the Florida Building Code Date 09 02 04 NOA# 04-0217-13
Miami Date Freduct Control

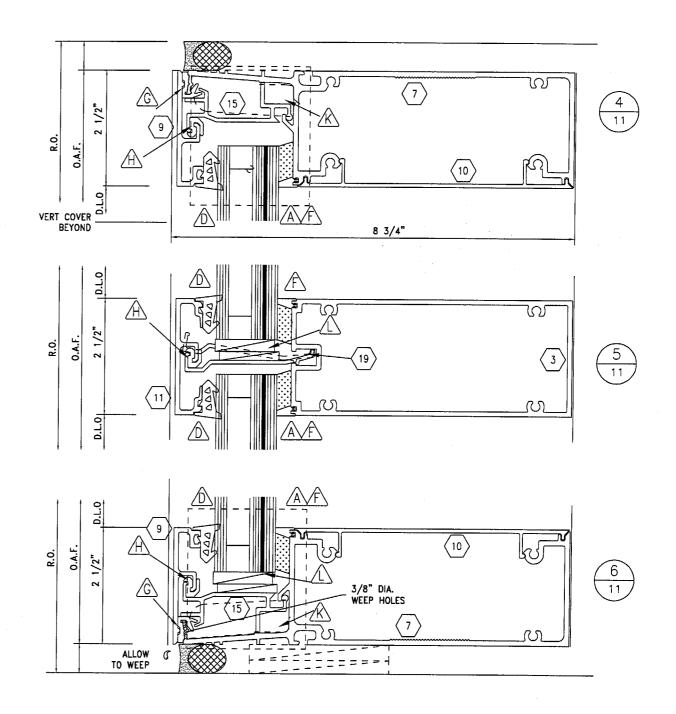


HI 7000 SMALL MISSILE ANCHOR APPLICATIONS

DATE: 06/28/04 /1 ZENON #9803 3 DWG. NO. 010_HI7000_sm

SHEET 10 OF 20





GENERAL NOTES:

- FOR ANCHOR DETAILS REFER TO SHEET 10
 FOR PART IDENTIFICATION REFER TO SHEET 2

FASTENERS

ALUMINUM EXTRUSIONS

- FOR GLAZING DETAILS, GLASS BITE & GASKET CONFIGURATIONS SEE SHEET 3.

DADE CO. STAMP

Approved as complying with the Fiorida Building Code Date 09 10 Z 0 4



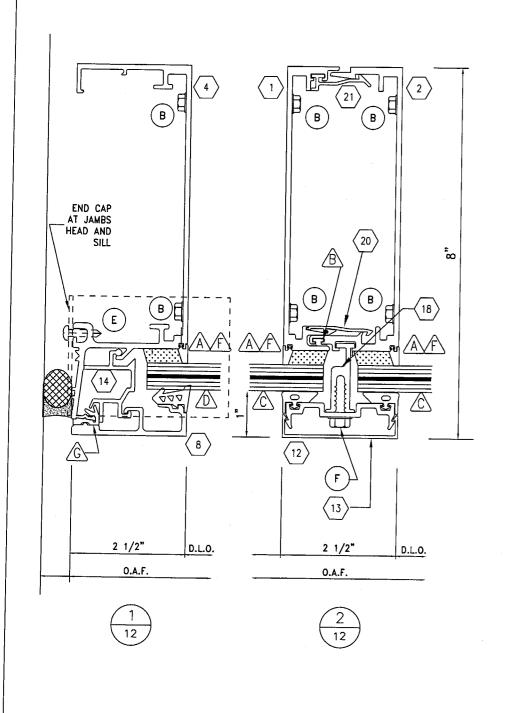
☐ Harmon

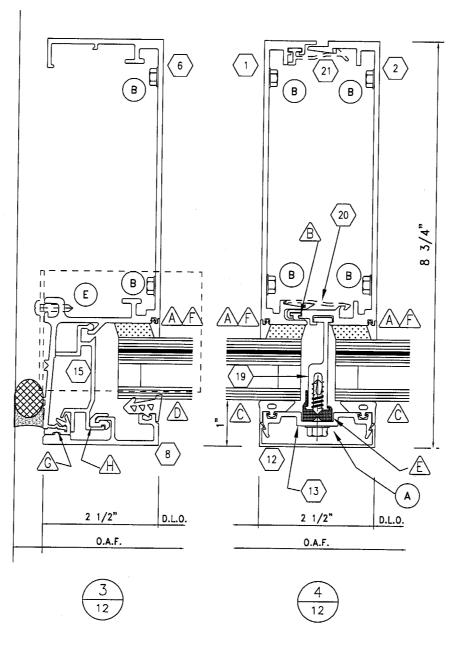
HI 7000 SMALL MISSILE HORIZONTAL DETAILS

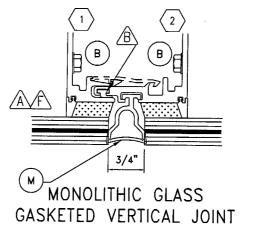
DATE: 06/28/04 /1

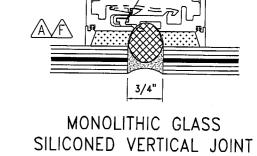
DWG: NO.98913_HI7000_sm

SHEET 11 OF 20

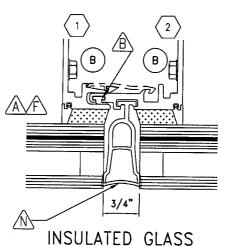


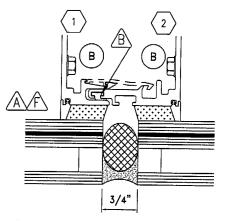












INSULATED GLASS SILICONED VERTICAL JOINT

GASKETED VERTICAL JOINT

Larson Engineering of Minnesota

3524 Labore Road

GENERAL NOTES:

- FOR ANCHOR DETAILS REFER TO SHEET 10 - FOR PART IDENTIFICATION REFER TO SHEET 2
 -) FASTENERS
 - \triangle GASKETS
 - ALUMINUM EXTRUSIONS

- FOR GLAZING DETAILS, GLASS BITE & GASKET CONFIGURATIONS SEE SHEET 3.

DADE CO. STAMP

Approved as complying with the

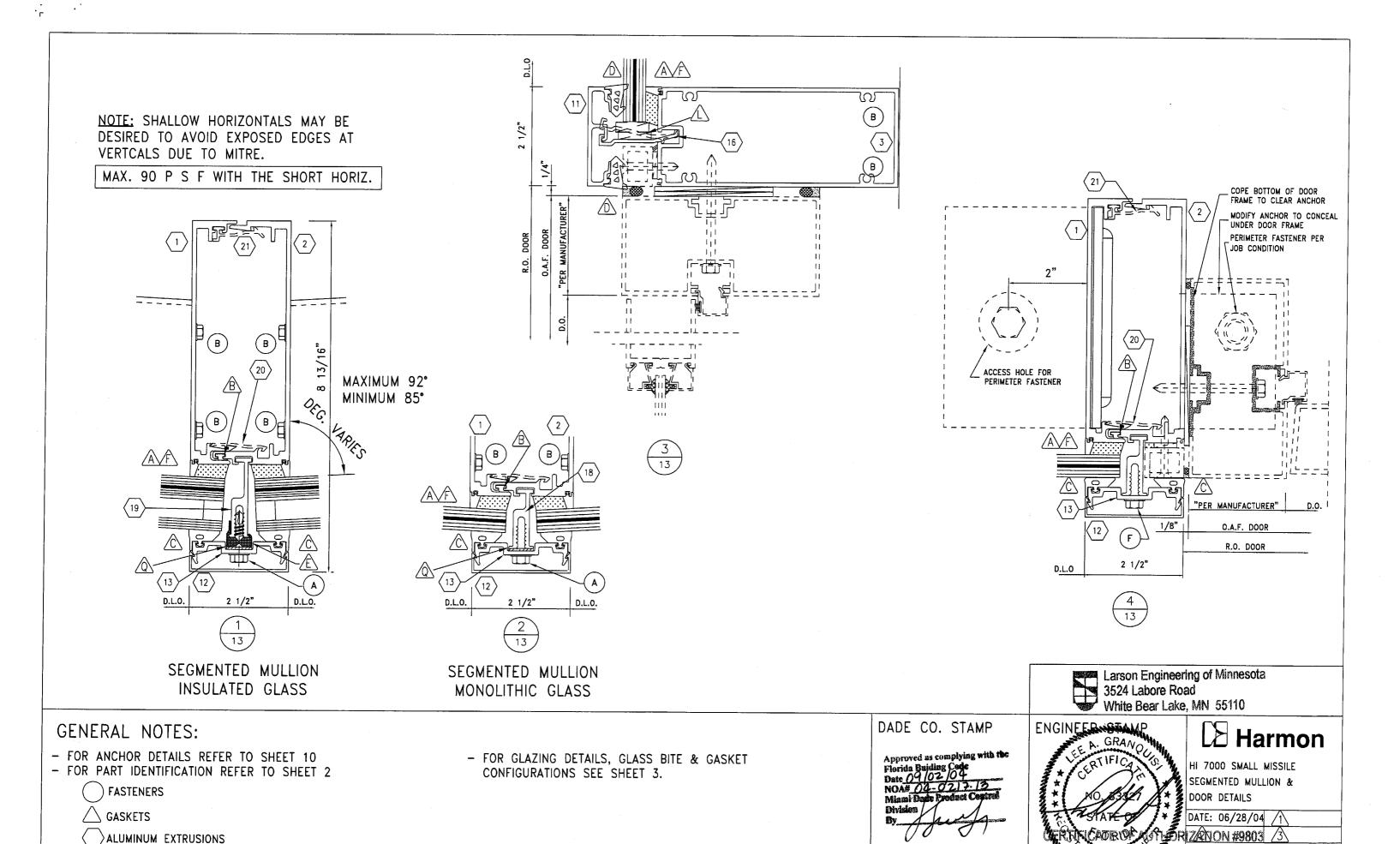


White Bear Lake, MN 55110 ☐ Harmon

HI 7000 SMALL MISSILE VERTICAL DETAILS

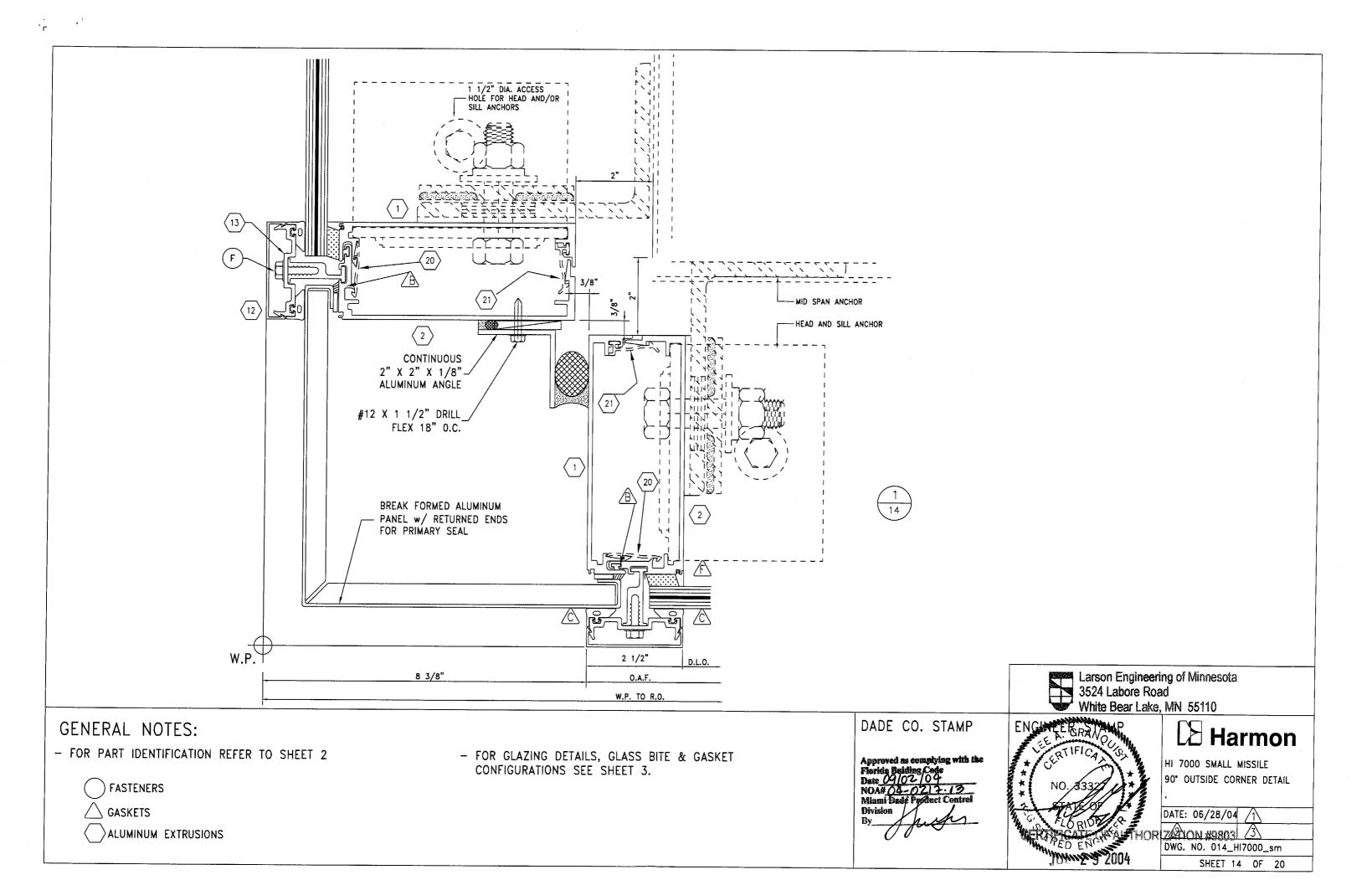
DATE: 06/28/04 /1 ZERNN #0803 /3 DWG. NO. 012_HI7000_sm

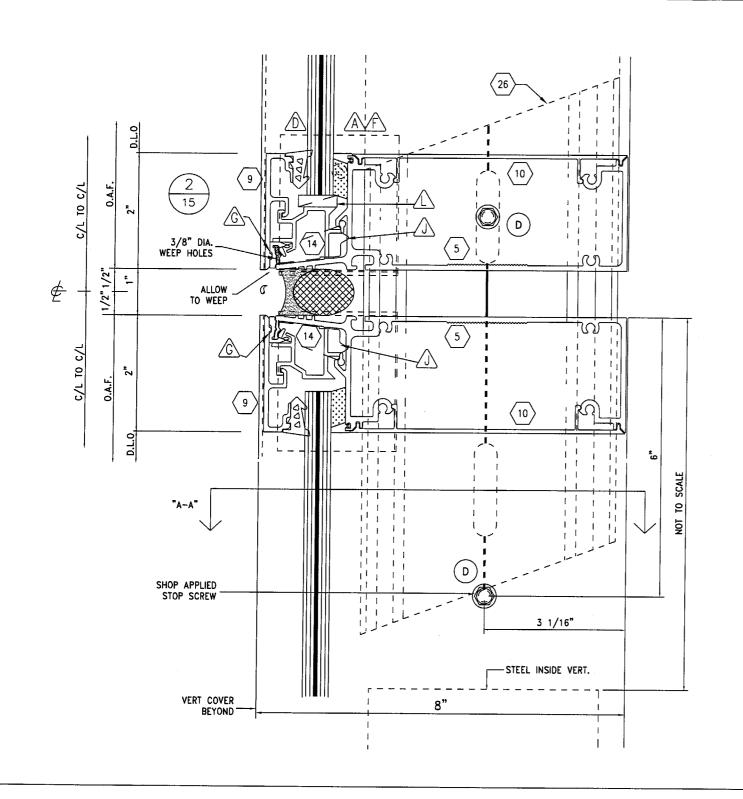
SHEET 12 OF 20

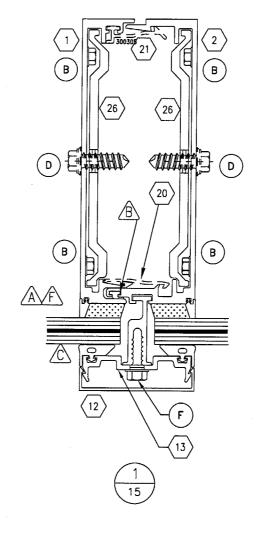


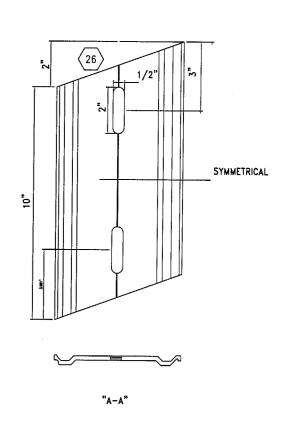
DWG. NO. 013_HI7000_sm

SHEET 13 OF 20









GENERAL NOTES:

- FOR PART IDENTIFICATION REFER TO SHEET 2

 FOR GLAZING DETAILS, GLASS BITE & GASKET CONFIGURATIONS SEE SHEET 3.

? FASTENERS

? GASKETS

? ALUMINUM EXTRUSIONS

DADE CO. STAMP

Approved as complying with the Florida Building Code Date 09 102 10 4 NOA 04-0212.13 Miami Dade Product Control Division



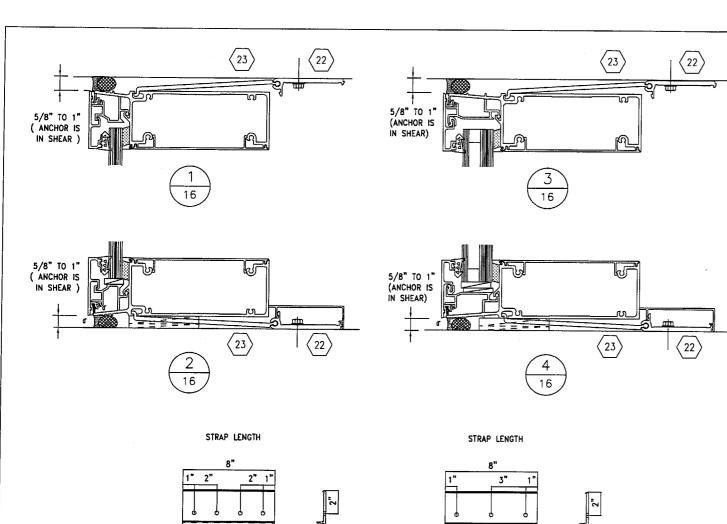
Larson Engineering of Minnesota 3524 Labore Road White Bear Lake, MN 55110

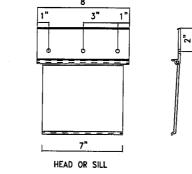
☐ Harmon

HI 7000 SMALL MISSILE MULLION SPLICE DETAIL

DATE: 06/28/04 1 2/2NON #9803 3 DWG. NO. 015_HI7000_sm

SHEET 15 OF 20





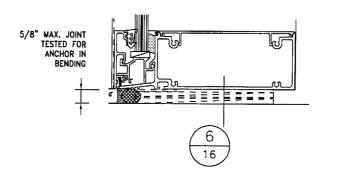
TESTED CONDITIONS SHOWN ABOVE.

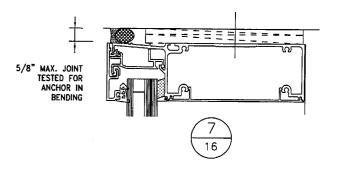
HEAD OR SILL

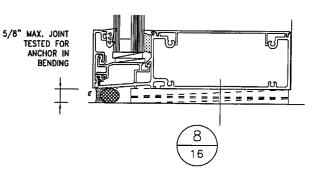
- (2) 8" STRAPS TESTED TO 2715# END REACTION
 (1) 8" STRAP TESTED TO 1,345# END REACTION
- ANCHORS MAY BE MADE LONGER TO ACCOMMODATE FASTENERS BASED ON PERIMETER CONDITIONS.
- A MINIMUM OF TWO (2) FASTENERS SHALL ALWAYS BE USED.

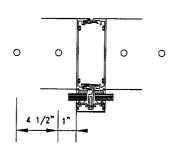
	ANCHO	OR FASTENER REQ	UIRE	MENTS	
SUBSTRATE	REACTION	FASTENER TYPE	QTY.	MIN. EMBED.	MIN. EDGE DIST.
WOOD	2,715 #	3/8"x3 1/2" LAG BOLT	3		
CONCRETE					
STEEL	2,715 #	#14 DRILL FLEX	3		
METAL STUD	2,230 #	#14 DRILL FLEX	4		

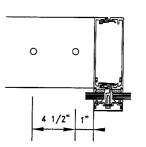
5/8" MAX. JOINT TESTED FOR ANCHOR IN











TESTED CONDITIONS SHOWN ABOVE.

- (2) FASTENERS, (1) EITHER SIDE @ INTERMEDIATE VERTICAL TESTED TO 3540# END REACTION
- (1) FASTENER ON SAME SIDE @ JAMBS TESTED TO 1845# END REACTION
- FASTENER SPACING AND QUANTITY MAY CHANGE BASED ON PERIMETER CONDITIONS.
- A MINIMUM OF TWO (2) FASTENERS SHALL ALWAYS BE USED (EXCEPT AT JAMBS).

	ANCHO	R FASTENER R	EQUIRE	MENTS	
SUBSTRATE	REACTION	FASTENER TYPE	QTY.	MIN. EMBED.	MIN. EDGE DIST.
WOOD					
CONCRETE	3,540 #	3/8" DIA.	2	3"	2 11/16"
STEEL	3,540	3/8" DIA	2		•
METAL STUD		on Fnaineerina	- E 1 E		

3524 Labore Road White Bear Lake, MN 55110

GENERAL NOTES:

- SIZES OF ANCHOR COMPONENTS LISTED ABOVE ARE A MINIMUM.
- ACTUAL LENGTH AND NUMBER & SIZE OF HOLES TO BE DETERMINED BY PROJECT SPECIFIC PERIMETER CONDITIONS AND TYPES OF FASTENERS USED.

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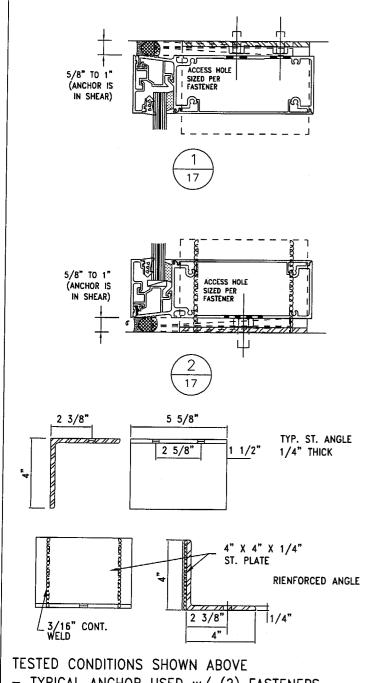
Approved as complying with the Florida Building Code Date 09/02/04



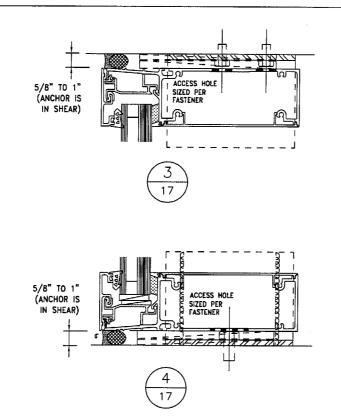
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HI 7000 SMALL MISSILE ANCHOR APPLICATIONS STRAP & THRU-FRAME

DATE: 06/28/04 /1 A730N #9803 3 DWG. NO. 016_HI7000_sm SHEET 16 OF 20

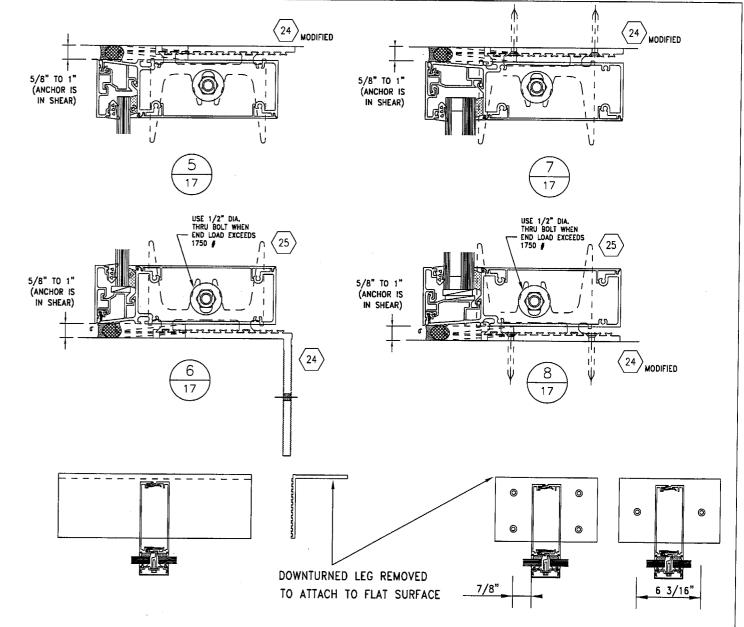


- TYPICAL ANCHOR USED w/ (2) FASTENERS
- REINFORCED ANGLE USED w/ (1) FASTENER.
 REINFORCING PLATE ADDED TO PREVENT TWIST
 IMPOSED BY ONLY (1) FASTENER
- ANCHORS OCCUR ON EACH SIDE OFVERTICAL, (1) @ JAMB



ANCH	OR FAS	TENER REQUIR	EMENTS	FOR TYP	. ANGLE
SUBSTRATE	REACTION	FASTENER TYPE	QTY.	MIN. EMBED.	MIN. EDGE DIST.
WOOD					
CONCRETE			١.	• .	
STEEL	4,520 #	3/8" DIA	4		
METAL STUD		,	1.		

OR FAS	TENER REQUIRE	MENTS	FOR REIN	N. ANGLE
REACTION	FASTENER TYPE	QTY.	MIN. EMBED.	MIN. EDGE DIST.
4,520 #	5/8" DIA	2	4"	4 13/16"
	REACTION	REACTION FASTENER TYPE 4,520 # 5/8" DIA	REACTION FASTENER TYPE QTY	



TESTED CONDITIONS SHOWN ABOVE

- LUG ANCHOR NOT TESTED AT A HEAD CONDITION
- WHEN TYPICAL ANCHOR IS USED QUANTITY AND SPACING OF FASTENERS IN DOWN-TURNED LEG TO BE DETERMINED BY PERIMETER CONDITIONS.
- MODIFIED ANCHOR USE w/ (4) FASTENERS
 IN TOP LEG AS SHOWN

	ANCHO	OR FASTENER RE	QUIRE	MENTS	
SUBSTRATE	REACTION	FASTENER TYPE	QTY.	MIN. EMBED.	MIN. EDGE DIST.
WOOD					
CONCRETE	2,715 #	1/2" DIA	2	4 1/8"	3 1/8"
STEEL	2,715 #	#14 DRILL FLEX	4		
METAL STUD				,	
	3524	on Engineering of Labore Road Bear Lake, MN			

DADE CO. STAMP

Approved as complying with the Florida Building Code
Date 09 02 0 0 NOA# 04-02 7-12
Miami Dade Broduct Costrol
Division

ENGINEER STAMP

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** NO 8354

** NO 8354

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☐ Harmon

HI 7000 SMALL MISSILE
ANCHOR APPLICATIONS
STEEL ANGLES & ALUMINUM LUGS

DATE: 06/28/04 1

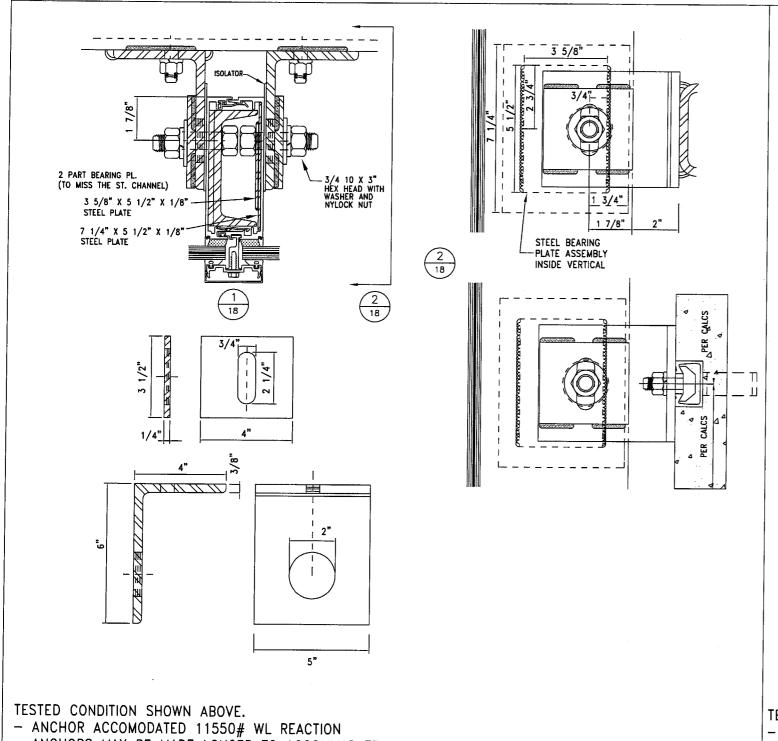
DRIZATION #980 3

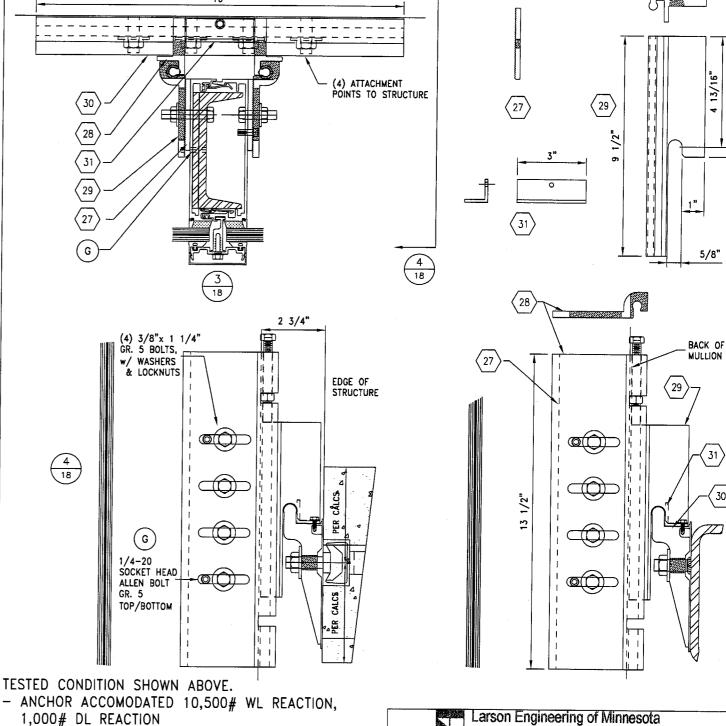
DWG. NO. 017_H17000_sm

SHEET 17 OF 20

GENERAL NOTES:

- SIZES OF ANCHOR COMPONENTS LISTED ABOVE ARE A MINIMUM.
- ACTUAL LENGTH AND NUMBER & SIZE OF HOLES TO BE DETERMINED BY PROJECT SPECIFIC PERIMETER CONDITIONS AND TYPES OF FASTENERS USED.

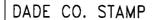




- ANCHORS MAY BE MADE LONGER TO ACCOMMADATE MORE FASTENERS BASED ON PERIMETER CONDITIONS.
- WELD SIZES TO BE DETERMINED ON A PER JOB BASIS.

GENERAL NOTES:

- SIZES OF ANCHOR COMPONENTS LISTED ABOVE ARE A MINIMUM.
- ACTUAL LENGTH AND NUMBER & SIZE OF HOLES TO BE DETERMINED BY PROJECT SPECIFIC PERIMETER CONDITIONS AND TYPES OF FASTENERS USED.



- ANCHORS MAY BE MADE LONGER TO ACCOMMADATE

MORE FASTENERS BASED ON PERIMETER CONDITIONS.

Approved as complying with the Florida Buiding Code
Date 09 10 2 10 4
NOA# 04-0212-12
Minmi Dade Paralact Control
Division

ENGINEER GRAMP

EE A. GRAMP

OUT OF THE CONTROL OF

3524 Labore Road

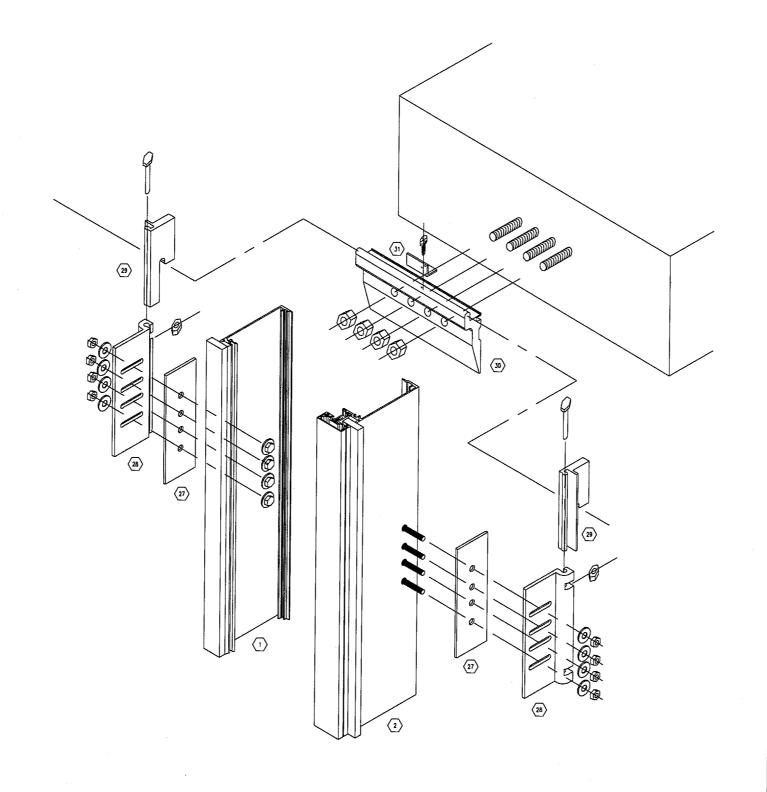
White Bear Lake, MN 55110

☐ Harmon

HI 7000 SMALL MISSILE ANCHOR APPLICATIONS EDGE OF SLAB

DATE: 06/28/04 1 2 3 ORI 49WE ONO 1998 HI7000_sm

SHEET 18 OF 20



<u> </u>	
31) ANTI-WALK ANGLE	<u> </u>
30) FLOOR EDGE PLATE	930111
19 HOOK ANCHOR	930108
28 "KNUCKLE" ANCHOR	930109
SERRATED PLATE	930110
2 MALE VERTICAL MULLION	306002
1 FEMALE VERTICAL MULLION	306001

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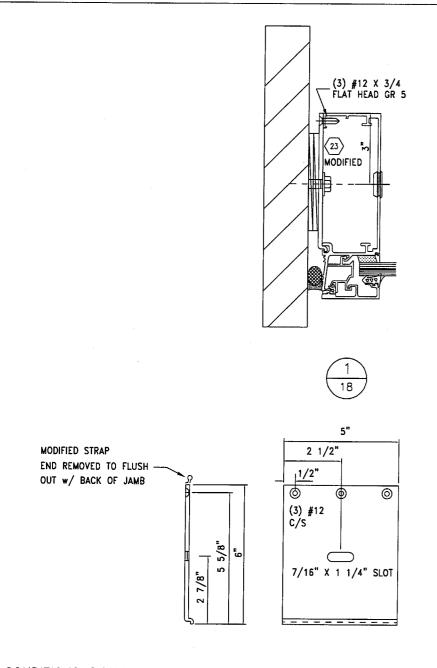
HI 7000 SMALL MISSILE ANCHOR APPLICATIONS

DATE: 06/28/04 /1

OFIZATION #9862 DWG. NO. 019_HI7000_sm SHEET 19 OF 20

GENERAL NOTES:

- EXPLODED VIEW OF TYPICAL MULLION ANCHOR FOR CURTAIN WALL APPLICATION WITH STACK HORIZONTAL



TESTED CONDITIONS SHOWN ABOVE.

- (1) 5" MODIFIED STRAP TESTED TO 1870# END REACTION
 ANCHORS MAY BE MADE LONGER TO ACCOMMADATE
- MORE FASTENERS BASED ON JOB SPECIFIC PERIMETER CONDITIONS.

GENERAL NOTES:

- SIZES OF ANCHOR COMPONENTS LISTED ABOVE ARE A MINIMUM.
- ACTUAL LENGTH AND NUMBER & SIZE OF HOLES TO BE DETERMINED BY PROJECT SPECIFIC PERIMETER CONDITIONS AND TYPES OF FASTENERS USED.



Larson Engineering of Minnesota 3524 Labore Road White Bear Lake, MN 55110

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HI 7000 SMALL MISSILE ANCHOR APPLICATIONS

DATE: 06/28/04 /1

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SHEET 20 OF 20